Claim Status

1. (currently amended) A method of controlling production run sequences of insulating glass units, comprising:

a) ~~creating~~ scheduling a sequence of runs of insulating glass units to be produced for assembly to form a window or door ~~sash~~ at a plurality of glazing lines;

b) monitoring a status of said sequence of runs ~~at~~ on a production control workstation;

c) monitoring a status of one or more computer controlled insulating glass unit component processing machines ~~at~~ on the production control workstation by means of electronic communication between the processing machines and said production control workstation;

d) monitoring a queue of insulating glass units from the insulating glass component processing machines to be assembled to ~~sashes~~ a window or door at the glazing lines ~~at~~ and indicating a status of the queue on a visual display at the production control workstation;

e) providing a user actuated input at the production control workstation for adjusting production by the processing machines; and

f) altering production within the sequence of runs in response to the user actuated input at the production control workstation based on one of the status of the runs, the status of the one or more insulating glass unit component processing machines, and the queue of insulating glass units at the glazing lines ~~line~~.

Please cancel claim 2 without prejudice or disclaimer.

2. (cancelled)

3. (Original) The method of claim 1 further comprising monitoring electronic requests to prioritize a given run of insulating glass units at the production control workstation and altering the sequence of runs based on the request to prioritize the given run.

4. (Original) The method of claim 1 further comprising electronically communicating an altered sequence of runs to the one or more glass component processing machines.

5. (Currently Amended) A method of controlling production run sequences of insulating glass units, comprising:

a) ~~creating~~ scheduling a sequence of runs of insulating glass components to be produced for assembly into insulating glass units at an assembly station;

b) monitoring a status of one or more insulating glass component processing machines;

c) electronically communicating the status of the one or more insulating glass component processing machines to a production control workstation;

 d) determining a status of runs of insulating glass components produced by the one or more insulating glass component processing machines from the electronically communicated status of the processing machines and indicating a status of said runs on a visual display;

e) providing a user actuated input for altering the sequence of runs of insulating glass componenets based on a monitored status of the runs of insulating glass components;

and

f [[e]]) altering the sequence of runs based on the user actuated input ~~status of the insulating glass component processing machines~~.

Please cancel claim 6 without prejudice or disclaimer

6. (cancelled)

7. (currently amended) The method of claim 5 further comprising monitoring electronic requests to prioritize a given run of insulating glass ~~units~~ components at the production control workstation and altering the sequence of runs based on the request to prioritize the given run.

8. (original) The method of claim 5 further comprising electronically communicating an altered sequence of runs to the one or more glass component processing machines.

9. (Currently Amended) A method of controlling production run sequences ~~of~~ for producing insulating glass units, comprising:

a) scheduling ~~creating~~ a sequence of runs of insulating glass units to be produced for assembly ~~to~~ into a window or a door ~~sash~~ upon reaching one glazing line of ~~at~~ a plurality of glazing lines;

b) monitoring a number of runs of assembled insulating glass units in queue to be assembled ~~to~~ into a window or a door sash at ~~a given glazing line of~~ the plurality of glazing lines;

c) identifying a low queue condition corresponding to a shortage of assembled insulating glass units at ~~the given~~ an identified glazing line;

d) electronically communicating the low queue condition of the ~~given~~ identified glazing line to a production control workstation and displaying said low queue condition on a visual display at the production control workstation; and

e) altering the sequence of runs of insulating glass units to ~~resolve the low queue condition at~~ add assembled insulating glass units at the ~~given~~ identified glazing line in response to a user input at the production control workstation.

10. (original) The method of claim 9 wherein a low queue condition is automatically identified when the number of runs in queue at the given glazing line reaches a predetermined queue lower limit.

11. (currently amended) The method of claim 9 wherein ~~the~~ a low queue condition is manually identified and entered into a programmable device by a glazing line worker.

12. (currently amended) The method of claim 9 wherein the number of runs of assembled insulating glass units in queue to be assembled ~~to~~ into a window or door ~~sash~~ at the ~~given~~ glazing ~~line~~ lines is monitored by identifying runs of assembled insulating glass units that are delivered to ~~the given~~ each glazing line and identifying runs of assembled insulating glass units that are processed at ~~the given~~ each glazing line.

13. (currently amended) The method of claim 12 wherein the runs of assembled insulating glass units that are delivered to ~~the given~~ each glazing line and runs of assembled insulating glass units that are processed at ~~the given~~ each glazing line are identified by scanning an identification label.

14. (currently amended) The method of claim 9 further comprising highlighting a next available run of insulating glass units on the visual display that can be produced for the ~~given~~ identified glazing line on the production control workstation .

15. (original) The method of claim 14 wherein the sequence of runs is altered by prioritizing a highlighted next available run for the given glazing line at the production control workstation.

16. (currently amended) The method of claim 9 wherein the sequence of runs is altered by prioritizing a next available run for the given glazing line when there is a low queue condition at the ~~given~~ identified glazing line.

17. (currently amended) The method of claim 9 further comprising tracking a number of low queue conditions at ~~the given~~ each glazing line and adjusting a predetermined queue lower limit based on the tracked number of low queue conditions.

18. (currently amended) The method of claim 9 further comprising prioritizing a run of insulating glass units required by the ~~given~~ identified glazing line, electronically communicating the prioritized run from the given glazing line to the production control workstation, and altering the sequence of runs to produce the prioritized run of insulating glass units earlier in time.

19. (original) The method of claim 9 further comprising preventing a sequence of production runs in progress from being altered.

20. (Currently Amended) A method of controlling production run sequences of insulating glass units, comprising:

a) creating a sequence of runs of insulating glass units to be produced for assembly ~~to~~ into a window or door ~~sash~~ at a plurality of glazing lines;

b) identifying a low queue condition of insulating glass units at an identified glazing line and electronically communicating the low queue condition of the identified glazing line to a production control workstation,

c ~~b~~) automatically prioritizing a run of insulating glass units required ~~by~~ to increase a queue of insulating glass units at the ~~given~~ identified glazing line;

~~c) electronically communicating the prioritized run from the given glazing line to a production control workstation;~~ and

d) altering the sequence of runs to produce the prioritized run of insulating glass units earlier in time.

Please cancel claim 21 without prejudice or disclaimer.

21. (cancelled)

22. (Currently Amended) The method of claim 20 further comprising ~~identifying a low queue condition at the given glazing line, electronically communicating the low queue condition of the given glazing line to the production control workstation, and~~ altering the sequence of runs to resolve the low queue condition at the ~~given~~ identified glazing line.

Please cancel claim 23 without prejudice or disclaimer.

23. (cancelled)

24. (currently amended) A system for controlling production run sequences of insulating glass units, comprising:

a) insulating glass component processing machines for producing assembled insulating glass units; and

b) one or more controller or ancillary ~~computer~~ computers including a programmable device in communication with the ~~window~~ insulating glass component processing ~~stations~~ machines ~~and the plurality of glazing lines~~ for:

i) creating a sequence of runs of insulating glass components to be produced for assembly into insulating glass units at an assembly station;

ii) monitoring a status of one or more insulating glass component processing machines;

iii) electronically communicating a status of the insulating glass component processing machines to a production control workstation;

displaying a status of the insulating glass component processing machines on a visual display at the production control workstation; and

iv) providing a user actuated input at the production control workstation for altering the sequence of runs based on the status of the insulating glass component processing machines.

25. (Currently Amended) A system for controlling production run sequences of insulating glass units, comprising:

a) window component processing stations for producing assembled insulating glass units;

b) a plurality of glazing lines where assembled insulating glass units are assembled into a window or door ~~sash~~; and

c) one or more controller or ancillary ~~computer~~ computers including a programmable device in communication with the window component processing stations and the plurality of glazing lines for:

i) creating a sequence of runs of insulating glass units to be produced into assembled insulating glass units for assembly to window or door sash at the plurality of glazing lines;

ii) monitoring a number of runs of assembled insulating glass units in queue to be assembled to window or door sash at a given glazing line of the plurality of glazing lines;

iii) identifying a low queue condition at ~~the given~~ an identified glazing line;

iv) highlighting a next available run of insulating glass units that can be produced for the identified glazing line on the production control workstation~~;~~.

and

iv) altering the sequence of runs to ~~resolve the low queue condition~~ produce assembled insulating glass units in the next available run for routing to ~~at~~ the ~~given~~ identified glazing line.

26. (Original) The system of claim 25 wherein a low queue condition is identified when the number of runs in queue at the given glazing line reaches a predetermined queue lower limit.

27. (original) The system of claim 25 wherein the number of runs of assembled insulating glass units in queue to be assembled to window or door sash at the given glazing line is monitored by identifying runs of assembled insulating glass units that are delivered to the given glazing line and identifying runs of assembled insulating glass units that are processed at the given glazing line.

Please cancel claim 28 without prejudice or disclaimer
28. (cancelled)

29. (currently amended) The system of claim 25 wherein the one or more controller or ancillary device   alters the sequence of runs by prioritizing [[a]] the next available run for the ~~given~~ identified glazing line when there is a low queue condition at the ~~given~~ identified glazing line.

30. (currently amended) A system for controlling production run sequences of insulating glass units, comprising:

a) window component processing stations for producing assembled insulating glass units;

b) a plurality of glazing lines where assembled insulating glass units are assembled into a window or door ~~sash~~; and

c) one or more controller or ancillary ~~computer~~ computers including a programmable device in communication with the window component processing stations and the plurality of glazing lines for:

i) creating a sequence of runs of insulating glass units to be produced for assembly to window or door sash at a plurality of glazing lines;

ii) <u>identifying when a number of runs of assembled insulating glass units in queue at an identified glazing line reaches a predetermined queue lower limit and</u> prioritizing a run of insulating glass units required by ~~a given~~ <u>the identified</u> glazing line;

iii) altering the sequence of runs to produce the prioritized run of insulating glass units earlier in time.

31. The system of claim 30 wherein the prioritized run is one of a rush run and a remake run.

Please cancel claim 32 without prejudice or disclaimer.

32. (cancelled)

33. (Currently Amended) A computer readable medium for storing instructions for performing a method of controlling production run sequences of insulating glass units, the method comprising:

a) ~~creating~~ <u>scheduling</u> a sequence of runs of insulating glass units to be produced for assembly to window or door ~~sash~~ at <u>one of</u> a plurality of glazing lines;

b) monitoring a status of said <u>sequence of</u> runs ~~at~~ <u>on</u> a production control workstation;

c) monitoring a status of one or more <u>computer controlled</u> insulating glass component processing machines at the production control workstation <u>by means of electronic communication between the processing machines and said production control workstation</u>;

d) monitoring a queue of insulating glass units to be assembled ~~to~~ into a window or door ~~sash~~ at the glazing lines ~~at~~ and indiating a status of the queue on a visual display of the production control workstation;

e) providing a user actuated input at the production control workstation for adjusting the production by the processing machines and

f) altering production within the sequence of runs in response to the user actuated input at the production control workstation based on one of the status of the runs, the status of the one or more insulating glass unit component processing machines, and the queue of insulating glass units at the glazing line.

34. (Currently Amended) A computer readable medium for storing instructions for performing a method of controlling production run sequences of insulating glass units, the method comprising:

a) ~~creating~~ scheduling a sequence of runs of insulating glass components to be produced for assembly into insulating glass units at an assembly station;

b) monitoring a status of one or more insulating glass component processing machines;

c) electronically communicating the insulating glass component processing machines to a production control workstation;

d) determining a status of runs of insulating glass components produced by the one or more insulating glass component processing machines from the electronically communicated status of the processing machines and indicating status of said runs on a visual display;

e) providing a user actuated input for altering the sequence of runs of insulating glass componenets based on a monitored status of the runs of insulating glass components; and

f) [[e]]) altering the sequence of runs based on the user actuated input ~~status of the insulating glass component processing machines~~.

35. (currently amended) A computer readable medium for storing instructions for performing a method of controlling production run sequences of insulating glass units, the method comprising:

a) ~~creating~~ scheduling a sequence of runs of insulating glass units to be produced for assembly ~~to~~ into a window or a door ~~sash~~ at a plurality of glazing lines;

b) monitoring a number of runs of assembled insulating glass units in queue to be assembled into a ~~to~~ window or door sash at ~~a given glazing line of~~ the plurality of glazing lines;

c) identifying a low queue condition corresponding to a shortage of insulating glass units at ~~the given~~ an identified glazing line;

d) electronically communicating the low queue condition of the ~~given~~ identified glazing line to a production control workstation and displaying said low queue condition on a visual display at the production control workstation; and

e) altering the sequence of runs of insulating glass units to ~~resolve the low queue condition at~~ add insulating glass units at the identified ~~given~~ glazing line in response to a user input at the production control workstation.

36. (Currently Amended) The computer readable medium of claim 35 wherein the number of runs of assembled insulating glass units in queue to be assembled to window or door sash at the ~~given~~ identified glazing line is monitored by identifying runs of assembled insulating glass units that are delivered to ~~the given~~ each glazing line and identifying runs of assembled insulating glass units that are processed at ~~the given~~ each glazing line.

37. (Currently Amended) The computer readable medium of claim 35 further comprising highlighting a next available run of insulating glass units that can be produced for the ~~given~~ identified glazing line on the production control workstation.

38. (currently amended) The computer readable medium of claim 35 wherein the method further comprises tracking a number of low queue conditions at the ~~given~~ plurality of glazing ~~line~~ lines and adjusting a predetermined queue lower limit based on the tracked number of low queue conditions.

39. (Currently Amended) The computer readable medium of claim 35 wherein the method further comprises prioritizing a run of insulating glass units required by the ~~given~~ identified glazing line, electronically communicating the prioritized run from the given glazing line to the production control workstation, and altering the sequence of runs to produce the prioritized run of insulating glass units earlier in time.

40. (original) The computer readable medium of claim 35 herein the method further comprises preventing a sequence of production runs in progress from being altered.

41. (Currently Amended) A computer readable medium for storing instructions for performing a method of controlling production run sequences of insulating glass units, the method comprising:

a) creating a sequence of runs of insulating glass units to be produced for assembly ~~to~~ into a window or door ~~sash~~ at a plurality of glazing lines;

b) identifying a low queue condition of insulating glass units at an identified glazing line and electronically communicating the low queue condition of the identified glazing line to a production control workstation;

c ~~b~~) automatically prioritizing a run of insulating glass units required ~~by~~ to increase a queue of insulating glass units at the ~~given~~ identified glazing line;

~~c) electronically communicating the prioritized run from the given glazing line to a production control workstation;~~ and

d) altering the sequence of runs to produce the prioritized run of insulating glass units earlier in time.

Please cancel claim 42 without prejudice or disclaimer

42 (cancelled)

43. (Currently amended) The computer readable medium of claim 41 wherein the method further comprises ~~identifying a low queue condition at the given glazing line,~~ ~~electronically communicating the low queue condition of the given glazing line to the production~~ ~~control workstation, and~~ altering the sequence of runs to resolve the low queue condition at the ~~given~~ <u>identified</u> glazing line.

44. (Currently Amended) A method of controlling production run sequences of insulating glass units, comprising:

a) ~~creating~~ <u>scheduling</u> a sequence of runs of insulating glass components to be produced for assembly into insulating glass units at an assembly station;

b) monitoring a number of runs of completed insulating glass components in queue to be assembled into insulating glass units at the assembly station;

c) identifying a low queue condition <u>corresponding to a shortage of insulating glass</u> <u>components</u> of a given type ~~of insulating glass component~~ at the assembly station;

d) electronically communicating the low queue condition of the given type of insulating glass component to a production control workstation <u>and displaying said low queue condition on</u> <u>a visual display at the production control workstation</u> ; and

e) <u>providing a user input for</u> altering the sequence of runs to resolve the low queue condition of the given type of insulating glass component <u>at the assembly station.</u>